

<b>Notice of Allowability</b>	Application No.	Applicant(s)
	10/550,090	TOKUDA ET AL.
	Examiner	Art Unit
	ADRIAN L. KENNEDY	2129

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTO-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to 8/26/08.
2.  The allowed claim(s) is/are 6, 8-12 and 14-20.
3.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All    b)  Some\*    c)  None    of the:
    1.  Certified copies of the priority documents have been received.
    2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.
  - (b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1.  Notice of References Cited (PTO-892)
2.  Notice of Draftsperson's Patent Drawing Review (PTO-948)
3.  Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4.  Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5.  Notice of Informal Patent Application
6.  Interview Summary (PTO-413),  
Paper No./Mail Date 20081105.
7.  Examiner's Amendment/Comment
8.  Examiner's Statement of Reasons for Allowance
9.  Other \_\_\_\_\_.

***Examiner's Amendment/Reasons for Allowance***

**The examiner hereby withdraws the finality of the Office**

**Action dated May 28, 2008.**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Examiner's Amendment is set forth as follows:

**IN THE CLAIMS:**

Claim 6, 8-12 and 14-20 have been amended as follows:

6. (Currently Amended) A computer-implemented dialogue learning system for teaching a language which is capable of automatically generating generates from a correct expression of a sentence a plurality of incorrect expressions of the sentence, the system comprising:

a template-template that contains within itself a plurality of templates and a plurality of nodes marked with label symbols that are associated with extraction rules, said system including a plurality of error rules by which the template-template can be expanded by adding a plurality of incorrect expressions of the sentence thereto as defined by the error rules, said extraction

rules configured to extract extracting a template from said template-template by including, excluding or modifying certain nodes of said template-template based on a value of the label symbols marking said nodes, said extracted template including at least one correct expression of the sentence and a plurality of incorrect expressions of the sentence, said system, by automatically defining a plurality of common incorrect expressions of the sentence according to the error rules, providing for automatic diagnosis of grammatical errors committed by a learner, each of said extraction rules being associated with a set of said label symbols (s<sub>1</sub>, s<sub>2</sub>, ... s<sub>n</sub>), with each symbol in said set being assigned one or more values, the values including at least one of an error message and a speech tag.

8. (Currently Amended) The computer-implemented system as set forth in claim 7 6, wherein each of said extraction rules is one of a plurality of rule types, with a first rule type providing that the symbol value of a particular node is either "appear" or "not appear", said system being configured to extract a template according to said first rule type by including in said extracted template either all the nodes having a symbol value of "appear" or all of the nodes having a symbol

value of "not appear", but not both of these symbol values.

9. (Previously Presented) The computer-implemented system as set forth in claim 8, wherein said plurality of rule types further includes a second rule type providing that the symbol value of a particular node is either a personal pronoun or a personal pronoun possessive with each being defined by language grammar rules applicable to the language being learned.

10. (Previously Presented) The computer-implemented system as set forth in claim 9, wherein said plurality of rule types further includes a third rule type providing that the symbol value of a particular node is an arbitrary number.

11. (Previously Presented) The computer-implemented system as set forth in claim 10, wherein said plurality of rule types further includes a fourth rule type providing that for all nodes marked with the fourth rule type, only one of said fourth rule type nodes can appear in the extracted template.

12. (Currently Amended) An automated computer-implementable dialogue learning system for teaching a language which ~~is~~ capable of automatically ~~generating~~ generates from a correct

expression of a sentence a plurality of possible incorrect expressions of the sentence, said system comprising:

a template-template that contains within itself a plurality of templates and a plurality of nodes marked with label symbols that are associated with extraction rules, said template-template including at least one correct expression of a sentence, said system including a plurality of error rules by which the template-template can be expanded to include at least one incorrect expression of said sentence, said extraction rules ~~configured to extract~~ extracting a template from said template-template by including, excluding or modifying certain nodes of said template-template based on a value of the label symbols marking said nodes, said extracted template including at least one correct expression of the sentence and at least one incorrect expression of the sentence, said system, by automatically defining a plurality of common incorrect expressions of the sentence according to the error rules, providing for automatic diagnosis of grammatical errors committed by a learner, each of said extraction rules being associated with a set of said label symbols ( $s_1, s_2, \dots s_n$ ), with each symbol in said set being assigned one or more values, the values including at least one of an error message and a speech tag.

14. (Currently Amended) The automated computer-implementable system as set forth in claim 13 12, wherein each of said extraction rules is one of a plurality of rule types, with a first rule type providing that the symbol value of a particular node is either "appear" or "not appear", said system being configured to extract a template according to said first rule type by including in said extracted template either all the nodes having a symbol value of "appear" or all of the nodes having a symbol value of "not appear", but not both of these symbol values.

15. (Previously Presented) The automated computer-implementable system as set forth in claim 14, wherein said plurality of rule, types further includes a second rule type providing that the symbol value of a particular node is either a personal pronoun or a personal pronoun possessive with each being defined by language grammar rules applicable to the language being learned.

16. (Previously Presented) The automated computer-implementable system as set forth in claim 15, wherein said plurality of rule types further includes a third rule type

providing that the symbol value of a particular node is an arbitrary number.

17. (Previously Presented) The automated computer-implementable system as set forth in claim 16, wherein said plurality of rule types further includes a fourth rule type providing that for all nodes marked with the fourth rule type, only one of said fourth rule type nodes can appear in the extracted template.

18. (Previously Presented) The automated computer-implementable system as set forth in claim 12, wherein a plurality of templates can be automatically generated from said template-template by said computer system based on the label symbols marking said nodes and the extraction rules applied thereto.

19. (Currently Amended) The An automated computer-implementable dialogue learning system as set forth in claim 12, wherein for teaching a language which is capable of automatically generating generates from a correct expression of a sentence a plurality of possible incorrect expressions of the sentence, said system comprising:

a template-template that contains within itself a plurality of templates and a plurality of nodes marked with label symbols that are associated with extraction rules, said template-template including at least one correct expression of a sentence, said system including a plurality of error rules by which the template-template can be expanded to include at least one incorrect expression of said sentence, said extraction rules configured to extract extracting a template from said template-template by including, excluding or modifying certain nodes of said template-template based on a value of the label symbols marking said nodes, said extracted template including at least one correct expression of the sentence and at least one incorrect expression of the sentence, said system, by automatically defining a plurality of common incorrect expressions of the sentence according to the error rules, providing for automatic diagnosis of grammatical errors committed by a learner, said extracted template including a plurality of correct expressions of the sentence defined by a plurality of paths across the extracted template and a plurality of incorrect expressions of the sentence defined by a plurality of paths across the extracted template, said system using a heaviest common sequence algorithm to automatically determine an optimal path from said plurality of paths for said sentence.

20. (Currently Amended) ~~The An automated computer-implementable dialogue learning system as set forth in claim 19, wherein for teaching a language which is capable of automatically generating generates from a correct expression of a sentence a plurality of possible incorrect expressions of the sentence, said system comprising:~~

a template-template that contains within itself a plurality of templates and a plurality of nodes marked with label symbols that are associated with extraction rules, said template-template including at least one correct expression of a sentence, said system including a plurality of error rules by which the template-template can be expanded to include at least one incorrect expression of said sentence, said extraction rules configured to extract extracting a template from said template-template by including, excluding or modifying certain nodes of said template-template based on a value of the label symbols marking said nodes, said extracted template including at least one correct expression of the sentence and at least one incorrect expression of the sentence, said system, by automatically defining a plurality of common incorrect expressions of the sentence according to the error rules, providing for automatic diagnosis of grammatical errors committed by a learner, said system being configured to select

the heaviest common sequence based on dynamic programming on a plurality of possible paths that could be extracted from the template-template without actually extracting all of said possible paths from the template-template.

Authorization for this examiner's amendment was given in a telephone interview with Jonathan Scherer on 10/16/08.

***Allowable Subject Matter***

Claims 6, 8-12 and 14-20 allowed.

The following is an examiner's statement of reasons for allowance: claims 6, 8-12 and 14-20 are considered allowable since when reading the claims in light of the specification, as per MPEP §2111.01 or *Toro Co. v. White Consolidated Industries Inc.*, 199 F.3d 1295, 1301, 53 USPQ2d 1065, 1069 (Fed. Cir. 1999), none of the references of record alone or in combination disclose or suggest the combination of limitations specified in the independent claims.

None of the references of record alone or in combination disclose or suggest the combination of limitations of each of said extraction rules being associated with a set of said label symbols (as supported at ¶ 0011), with each symbol in said set

being assigned one or more values (as supported at ¶ 0040 and 0047), the values including at least one of an error message (as defined at ¶ 0022-0031) and a speech tag (as defined at ¶ 0032), *inter alia*, as specified in independent claims 6 and 12.

Additionally, none of the references of record alone or in combination disclose or suggest the combination of limitations of said system being configured to select the heaviest common sequence based on dynamic programming on a plurality of possible paths that could be extracted from the template-template without actually extracting all of said possible paths from the template-template (as defined at ¶ 0041-0058), *inter alia*, as specified in independent claims 19 and 20.

Regarding 35 USC 101, the examiner takes the position that the applicant's claimed invention of independent claims 6, 12, 19 and 20 is statutory due to the fact that it is explicitly tied to a computer and is additionally statutory due to the transformation of incorrect expressions of a sentence into correct expressions. This "concrete, useful and tangible result is further exemplified, in a non-limiting manner, in the applicant teaching the practical application of natural language learning, as specified in paragraph 0059. Clearly these high level calculations and/or method steps are performed by a computer.

The examiner has found that Tokuda et al. (An Online Tutoring System for Language Translation, referred to as Tokuda) is the closest prior art of record teaching (or suggesting) an invention that learns language using template to template based matching. However, the examiner has found that the distinct features of the applicant's claimed invention over the prior art are the claiming of the label symbol values including at least one of an error message and a speech tag, *inter alia* (independent claims 6 and 12), and the claiming of the use of the heaviest common sequence for determining an optimal path, *inter alia* (independent claims 19 and 20).

***Correspondence Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adrian L. Kennedy whose telephone number is (571) 270-1505. The examiner can normally be reached on Mon-Fri 8:30am-5pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Vincent can be reached on (571) 272-3080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/ALK/  
Examiner,

/David R Vincent/  
Supervisory Patent  
Art Unit 2129

Application/Control Number: 10/550,090  
Art Unit: 2129

Page 14